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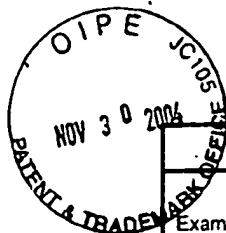
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| | | | | First Named Inventor | O'Connor |
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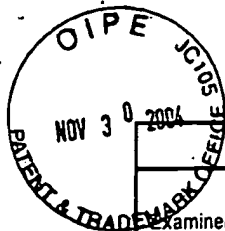
| FOREIGN PATENT DOCUMENTS | | | | | | | |
|---|-----------------------|---|--|--------------------------------|---|---|----------------|
| Examiner Initials* | Cite No. ¹ | Foreign Patent Document | | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear | T ⁶ |
| | | Country Code ³ - Number ⁴ - Kind Code ⁵ (if known) | | | | | |
|  | 1 | EP 0 689 132 A2 | | 12/27/95 | Laffra | | |
| | 2 | EP 0 710 942 A2 | | 05/08/96 | Siefert | | |
| | 3 | EP 0 798 655 A2 | | 10/01/97 | Jervis, et al. | | |
| | 4 | WO 00/04478 | | 01/27/00 | Jonsson | | |
| | 5 | WO 98/03953 | | 01/29/98 | Simmons | | |
| | 6 | WO 98/25251 | | 06/11/98 | Ho | | |
| | 7 | WO 98/32109 | | 07/23/98 | De Lange | | |

| OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS | | | |
|--|-----------------------|--|----------------|
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| KMC | 8 | W. Doube, "A Browser-Based System to Support & Deliver DE," 1998 FIE Conference, Conference Proceedings, Vol. 1, pp. 479-484, Nov. 4-7, 1998 | |
| | 9 | W. Regian and G. Pitts, "A Fuzzy Logic-Based Intelligent Tutoring System (ITS)," Information Processing 92, Vol. II, pp. 66-72, Dec. 1992. | |
| | 10 | J. Reye, "A Goal-Centered Architecture for Intelligent Tutoring Systems," Proc. of 7th World Conf. on Artificial Intelligence in Education, pp. 307-314, Aug. 1995 | |
| | 11 | R. Schank and D. Edelson, "A Role for AI in Education: Using Technology to Reshape Education", Northwestern University, The Institute for the Learning Sciences, Journal of Artificial Intelligence in Education, Winter 1990, pp. 1-24, January 1990 | |
| | 12 | A. Nowakowski, "A Special Section -- Goal Based Scenarios: A New Approach to Professional Education: Reengineering Education at Andersen Consulting," Educational Technology, pp. 3-8, Nov.-Dec. 1994 | |
| | 13 | R. Chellappa, A. Barua and A. Whinston, "An Electronic Infrastructure for a Virtual University," Communications of the ACM, Vol. 40, No. 9, pp. 56-58, Sep. 1997. | |
| | 14 | K. Itoh M. Itami, K. Ichihara, J. Matsushita, T. Nomizo, T. Shimomura and T. Takahashi, "An Object-Oriented Architecture for Evolutional Development of Interactive Learning Environment with Coached Problem-Solving," Proc. Of 1997 World Conf. On Artificial Intelligence in Education, pp. 592-94, Dec. 1997 | |
| | 15 | K. Nakabayashi, M. Maruama, Y. Koike, Y. Kato, H. Touhei and Y. Fukuhara, "Architecture of an Intelligent Tutoring System on the WWW," Artificial Intelligence in Education, pp. 39-46, Dec. 1997 | |
| | 16 | D. McArthur, "Artificial Intelligence and Mathematics Education" at http://www.rand.org/ho/mcarthur/Papers/aled.html , pp. 1-8, Jan. 2001 | |
| | 17 | T. Murray, "Authoring Intelligent Tutoring Systems: An Analysis of the State of the Art" at http://www.cs.umass.edu/~tmurray/papers/ATSummary/AuthTools.html , pp. 1-35, July 2001 | |
| | 18 | "Automate Your Business Plan Software" at www.business-plan.com/automate.html , pp. 1-4, July 2001 | |
| | 19 | A. Gonzalez and L. Ingraham, "Automated Exercise Progression in Simulation-Based Training," IEEE Trans. On Systems, Man, and Cybernetics, Vol. 24, No. 6, pp. 863-74, June 1994 | |
| | 20 | A. Muntjewerff, "Automated Training of Legal Reasoning" at http://www.bileta.ac.uk/94papers/muntjew.html , pp. 1-7, July 2001, 9 th BILETA Conference April, 1994 | |
| | 21 | "Brainmaker" at http://people.beacon.org/~echoscan/28-04.htm , July 2001 | |



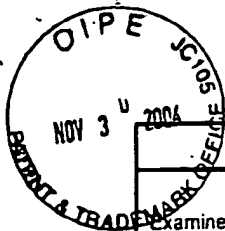
OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS

| Examiner Initials * | Cite No. ¹ | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T ² |
|---------------------|-----------------------|---|----------------|
| ✓ | 22 | Brainmaker Neural Network Application Examples at http://www.calsci.com/Applications.html , January 2001 | |
| | 23 | C. Robinson, E. Arias and H. Eden, "Bridging the Virtual and the Physical: The InterSim as a Collaborative Support Interface," Artificial Intelligence in Education, pp. 556-58, Dec. 1997 | |
| | 24 | C. Shreiner, "CAPTOR a Model for Delivering Web-Based Intelligent Tutoring System Technology", IEEE Proc. DASC vol. 2, pp 5.C.4.1-5 | |
| | 25 | S. Prabhu, "Computer Aided Instruction for Statistics: A Knowledge-Based Systems Approach," Int'l J. of Computers in Adult Education and Training, Vol. 5(1), pp. 3-14., November 1995 | |
| | 26 | J. Montgomery, R. Campbell and C. Moffett, "Conducting and Supporting a Goal-Based Scenario Learning Environment," Educational Technology, pp. 15-20, 994 | |
| | 27 | A. Zeller and D. Lutkehaus, "DDD—A Free Graphical Front-End for UNIX Debuggers," ACM Sigplan Notices, Vol. 31, No. 1, pp. 22-27, Jan. 1996, | |
| | 28 | Vanguard Software Corporation "Decision Pro3.0" at www.vanguardsw.com/ , Jan. 2001 | |
| | 29 | B. Cheok and A. Nee, "Developing a Design System into an Intelligent Tutoring System," Int'l J. Engr. Eud., Vol. 13(5), pp-341-46, Dec. 1997 | |
| | 30 | T. Nogami, Y. Yokoi, I. Yanagisawa and S. Mitui, "Development of a Simulation-Based Intelligent Tutoring System for Assisting PID Control Learning," IEICE Transactions on Information and Systems, E77-D, No. 1, Tokyo Japan, pp. 108-117, Jan. 1994 | |
| | 31 | J. Gonzalez, J. Lopez, F. Bustio, P. Corcuera and E. Mora, "Development of an Integrated Simulator and Real Time Plant Information System," Advances in Operational Safety of Nuclear Power Plants, Proceedings of an International Symposium, pp. 543-549, September 1996. | |
| | 32 | P. Brusilovsky, S. Ritter and E. Schwarz, "Distributed Intelligent Tutoring on the Web," Artificial Intelligence in Education, pp. 482-89, Dec. 1997 | |
| | 33 | R. Schank and M. Korcuska, "Eight Goal-Based Scenario Tools", Technical Report # 67, Northwestern University, The Institute for the Learning Sciences, pp. 1-37, January 1996 | |
| | 34 | J. Siemer and M. Angelides, "Embedding an Intelligent Tutoring System in a Business Gaming-Simulation Environment," Proc. Of the 1994 Winter Simulation Conference, pp. 1399-1406, Dec. 1994 | |
| | 35 | Engines for Education" http://www.ils.nwu.edu/~e_for_e/nodes/I-M-INTRO-ZOOMER-pg.html ; July 2001. | |
| | 36 | S. Taylor and J. Siemer, "Enhancing Simulation Education with Intelligent Tutoring Systems," Proc. Of the 1996 Winter Simulation Conf., pp. 675-80, Dec. 1996 | |
| | 37 | J. Siemer and M. Angelides, "Evaluating Intelligent Tutoring with Gaming Simulations," Proc. Of the 1995 Winter Simulation Conf., pp. 1376-83, Dec. 1995 | |
| | 38 | A. Mitrovic and B. Martin, "Evaluating the effectiveness of feedback in SQL-tutor", IEEE, proc. Int. workshop IWALT, pp 143-144, 2000 | |
| | 39 | D. Foster, "FRA: Teaching Financial Accounting with a Goal-Based Scenario," Intelligent Systems in Accounting, Finance and Management, Vol. 4, pp. 173-189, September 1995 | |
| | 40 | N. Livergood, "From Computer-Assisted Instruction to Intelligent Tutoring Systems," J. Artificial Intelligence in Education, V. 2(3), pp. 39-50, Dec. 1991 | |
| | 41 | R. Shank, "Goal-Based Scenarios and Business Training: A Conversation with Roger C. Schank," Educational Technology, pp. 27-29, Nov.-Dec. 1994 | |
| | 42 | A. Collins, "Goal-Based Scenarios and the Problem of Situated Learning: A Commentary on Andersen Consulting's Design of Goal-Based Scenarios," Educational Technology, pp. 30-32, Nov.-Dec. 1994 | |
| | 43 | R. Shank, "Goal-Based Scenarios", Technical Report # 36, Northwestern University, The Institute for the Learning Sciences, pp. 1-30, December 1992, | |
| | 44 | J. Rickel, "Intelligent Computer-Aided Instruction: A Survey Organized Around System Components," IEEE Inc., New York, Vol. 49, No. 1, pp. 40-57 - pp. 1-32, Jan. 1989 | |
| | 45 | M. Yazdani, "Intelligent Tutoring Systems: An Overview" Experts Systems, Vol. 3, No. 3, pp. 154-162, July 1986 | |
| | 46 | "Interactive Multimedia Instructs the Individual," Occupational Health & Safety Vol. 63, No. 10, pp. 144-145, Oct. 1994 | |
| | 47 | J. Carroll and J. McKendree, "Interface Design Issue for Advice Giving Expert Systems", Comm. Of the ACM, vol 30, No. 1, pp14-31, January 1987 | |
| | 48 | "KBLPS Overview" at www.cgi.com/CGIWEB/KBLPS/overindex4.html , August 1999 | |
| ✓ | 49 | "Kiplinger TaxCut Press Releases" at http://www.taxcut.com/taxcut/98press_releases/pr98_nowshipping.html , July 2001 | |



OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS

| Examiner Initials | Cite No. | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T ² |
|-------------------|----------|---|----------------|
| ✓ | 50 | G. Cole, "Learning with Computers," Accountancy Vol. 113, No. 1208, pp. 60-64, May 1994 | |
| | 51 | J. Keys, R. Fulmer and S. Stumpf "Microworlds and Simuworlods: Practice Fields for the Learning Organization," Organizational Dynamics Vol. 24, No. 4, pp. 38-49, Spring 1996 | |
| | 52 | "MUSE Patents" OCCAM Research Corporation, at www.muser.com/html/patents.html, January 2001 | |
| | 53 | "News for ESAP" at www.hops.wharton.upenn.edu/~esap/news.html, August 1999 | |
| | 54 | M. Cohn, "No More Boring CPE," Accounting Technology, pp. 27-35, July 1997 | |
| | 55 | K. Lai, T. Malon, K. Yu, "Object Lens: A 'Spreadsheet' for Cooperative Work", ACM Transactions on Information Systems, Vol. 6, No. 4, pp. 332-353, Oct. 1988 | |
| | 56 | J. Brown, R. Burton and J. DeKleer, "Pedagogical, Natural Language and Knowledge Engineering Techniques in SOPHIE I, II, and III," Intelligent Tutoring Systems, D. Sleeman & J.S. Brown eds., pp. 227-82, Dec. 1982 | |
| | 57 | J. Caird, "Persistent Issues in the Application of Virtual Environment Systems to Training," Proceedings. Third Annual Symposium on Human Interaction with Complex Systems, IEEE, pp. 124-32, August 1996 | |
| | 58 | D. Bill, "Popular Theory Supporting the Use of Computer Simulation for Experiential Learning," http://www.centurionsys.com/vtcl57.html, pp. 1-5, July 2001 | |
| | 59 | C. Cleary and R. Bareiss, "Practical Methods for Automatically Generating Typed Links", The Institute for Learning Sciences, Northwestern University, ACM Hypertext, pp 31-41, 1996 | |
| | 60 | "Projects: FinPlan System", Russian Research Institute of Artificial Intelligence, at http://www.mai.org.ru/FinPlan, July 2001 | |
| | 61 | R. Azevedo, S. Lajoie, M. Desaulniers, D. Fleischer and P. Bret, "RadTutor: The Theoretical and Empirical Basis for the Design of a Mammography Interpretation Tutor," Proc. of 1997 World Conf. On Artificial Intelligence in Education, pp. 386-393 Dec. 1997 | |
| | 62 | T. Cooper and N. Wogrin, "Rule-Based Programming with OPS5" Morgan Kaufmann Publishers, at www.mkp.com/books_catalog/O-934613-51-6.asp, August 1999 | |
| | 63 | R. Min, "Simulation Technology and Parallelism in Learning Environments" at http://www.to.utwente.nl/prj/min/Book/chapter1.htm, pp. 1-26, July 2001 | |
| | 64 | J. Shi, T. Smith, J. Granieri and N. Badler, "Smart Avatars in JackMOO," Proceedings of the 1999 IEEE Conference on Virtual Reality, pp. 156-163, 1999 | |
| | 65 | V. Shute, "SMART Evaluation: Cognitive Diagnosis, Mastery Learning & Remediation," Proc. of 7th World Conf. On Artificial Intelligence in Education, pp. 123-130, Aug. 1995 | |
| | 66 | C. Hafner and V. Wise, "Smartlaw: Adapting Classic Expert System Techniques for the Legal Research Domain", ACM pp 133-141, 1993 | |
| | 67 | "Socialized Collaborative Learning in Multimedia Virtual Worlds" National University of Singapore, School Computing, at http://www.comp.nus.edu.sg/labs/learning/leis/vrml.html, pp. 1-4, July 2001 | |
| | 68 | C. Whittington and L. Campbell, "Task-Oriented Learning on the Web", Innovations in Education and Training International, Vol. 36, No. 1, pp. 26-33, Feb. 1999 | |
| | 69 | D. Foster, "Teaching Real-World Analysis Skills for Goal-Based Scenario," The Institute for the Learning Sciences, Northwestern University, pp. 68-74, July 2001 | |
| | 70 | M. Papagni, V. Cirillo and A. Micarelli, "Teaching Through Case-Based Reasoning: An ITS Engine Applied to Business Communication," Proc. of 1997 World Conf. On Artificial Intelligence in Education, pp. 111-118, Dec. 1997 | |
| | 71 | T. Herron, "Teaching with the Internet" 1998, The Internet and Higher Education, pp 217-222, 1998 | |
| | 72 | D. Suthers, "Technical Report: Computer Aided Education and Training Initiative" at http://advlearn.lrdc.pitt.edu/advlearn/papers/FINALREP.html, pp. 1-51, January 1998 | |
| | 73 | Workflow Template - Developing a WFT Workflow System, "Simulating the Running of the WFT Workflow System", Template Software Business Simulator, Chapter 8, pp. 1-23, 1998 | |
| | 74 | R. Schank, A. Fano, M. Jona and B. Bell, "The Design of Goal-Based Scenarios", Technical Report # 39, Northwestern University, The Institute for the Learning Sciences, pp. 1-58, March 1993 | |
| | 75 | J. Anderson and B. Reiser, "The Lisp Tutor," Byte, pp. 159-75, April 1985 | |
| | 76 | D. McArthur, M. Lewis and M. Bishay, "The Roles of Artificial Intelligence in Education: Current Progress and Future Prospects" at http://www.rand.org/education/mcarthur/Papers/role.html, pp. 1-42, July 2001 | |
| ✓ | 77 | W. van Joolingen, S. King and T. de Jong, "The SimQuest Authoring System for Simulation-Based Discovery Learning," Proc. of 1997 World Conf. On Artificial Intelligence in Education, pp. 79-86, Dec. 1997 | |



OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS

| Examiner Initials * | Cite No. ¹ | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T ² |
|---------------------|-----------------------|---|----------------|
| ✓ | 78 | A. Kumar, R. Pakala, R. Ragade and J. Wong, "The Virtual Learning Environment System," 28th Annual Frontiers in Education Conference, Conference Proceedings, Vol. 2, Nov. 4-7, 1998 | |
| | 79 | M. McGee, "Train with Less Pain," at www.informationweek.com , pp. 150 and 154 October 1997 | |
| | 80 | "TurboTax Deluxe Product Information" at http://www.intuit.com/turbotax/prodinfo/ttdlx.html , January 2001 | |
| | 81 | J. Manzoni and A. Angehrn, "Understanding Organizational Dynamics of IT-Enabled Change: A Multipedia Simulation Approach," Journal of Management Information Systems: JMIS, Vol. 14, No. 3, pp. 109-140, Winter 1997/1998 | |
| | 82 | "User-Sensitive Multimedia Presentation System," IBM Technical Disclosure Bulletin, Vol. 39, No. 3, pp. 93-94 March 1996 | |
| | 83 | R. Kemp and S. Smith, "Using Planning Techniques to Provide Feedback in Interactive Learning Environments," Proc. Sixth Int'l Conf. On Tools with Artificial Intelligence, pp. 700-703, November 1994 | |
| | 84 | R. Kemp, "Using the Wizard of Oz Technique to Prototype a Scenario-Based Simulation Tutor," Proc. of 1997 World Conf. On Artificial Intelligence in Education, pp. 458-465, December 1997 | |
| | 85 | R. Schank, "Virtual Learning: A Revolutionary Approach to Building a Highly Skilled Workforce," Personnel Psychology Vol. 51, No. 3, pp. 767-771, Autumn 1998 | |
| | 86 | J. Breuker, "What are Intelligent Coaching Systems and Why are they (in)evitable?" IEEE Colloquium on Artificial Intelligence in Educational Software, pp. 2/1-2/5, June 1998 | |
| | 87 | "Why Should the Teens Have All the Best Games? Management Skill with Oil, Health, Housing Games," Computergram Int'l, June 17, 1996 | |
| | 88 | E.Tam, P. Allard, M. Faraj, M. Kaddoura, A. Mourad, H. Liu, A. Malowany, R. Marceau, L. Granger and J. Gagnon, "WITS: A Reusable Architecture for a VR-Based ITS" at http://advlearn.lrdc.pitt.edu/its-arch/papers/tam.html , pp. 1-5, July 2001 | |
| | 89 | Computer Dictionary, 3 rd Edition, pp. 264, 276, 383, 446, 462, 507, 1997 | |
| | 90 | L. Gensing-Prphal, "Flexible Learning", Credit Union Management Vol. 21, No. 2, pp. 32-33 and 38, Feb. 1998, | |
| | 91 | J. Wilson and D. Mosher, "The Prototype of the Virtual Classroom," Journal of Instruction Delivery Systems, Summer 1994, at http://www.educause.edu/nlii/articles/moshwils.html , pp. 1-9, July 2001 | |
| | 92 | T. Burns, "Multimedia Training... 'Get Lemonade, Not a Lemon!'" Journal for Quality and Participation, Vol. 20, No. 3, pp. 22-26, June 1997, | |
| ✓ | 93 | A. Seagren and B. Watwood, "The Virtual Classroom: Great Expectations. Delivering Graduate Education by Computer. A Success Story," 5 th Annual International Conf. for Community & Technical College Chairs, Deans and Other Organizational Leaders, pp 512-517, February 1996 | |

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